

A2  
--The quest for an activator of the HER2 oncogene has lead to the discovery of a family of heregulin polypeptides. These proteins appear to result from alternative splicing of a single gene which was mapped to the short arm of human chromosome 8 by Lee *et al.*, *Genomics*, 16:790-791 (1993); and Orr-Urtreger *et al.*, *Proc. Natl. Acad. Sci. USA*, 90:1867-1871 (1993).--

✓  
Please replace the paragraph beginning at page 44, line 16, with the following rewritten paragraph:

A3  
--The following hybridoma cell line has been deposited with the American Type Culture Collection, 10801 University Blvd., Manassas, VA 20110-2209 (ATCC):--

IN THE CLAIMS:

✓  
Prior to prosecution, please add the following claims to the application:

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A4  
--22. (NEW) An isolated nucleic acid encoding an antibody, wherein the antibody binds to ErbB3 protein and reduces heregulin-induced formation of an ErbB2-ErbB3 protein complex in a cell which expresses ErbB2 and ErbB3.

23. (NEW) The isolated nucleic acid of claim 22 wherein the antibody further increases the binding affinity of heregulin for ErbB3 protein.

24. (NEW) The isolated nucleic acid of claim 22 wherein the antibody further reduces heregulin-induced ErbB2 activation in the cell.

25. (NEW) The isolated nucleic acid of claim 22 wherein the antibody is a monoclonal antibody.

26. (NEW) The isolated nucleic acid of claim 22 wherein the antibody is humanized.

27. (NEW) The isolated nucleic acid of claim 22 wherein the antibody is human.

28. (NEW) The isolated nucleic acid of claim 22 wherein the antibody is an antibody fragment comprising an antigen binding region.

29. (NEW) The isolated nucleic acid of claim 28 wherein the antibody fragment is a Fab.

30. (NEW) An isolated nucleic acid encoding an antibody, wherein the antibody binds to ErbB3 protein and increases the binding affinity of heregulin for ErbB3 protein.

31. (NEW) An isolated nucleic acid encoding an antibody, wherein the antibody binds to ErbB3 protein and reduces heregulin-induced ErbB2 activation in a cell which expresses ErbB2 and ErbB3.

32. (NEW) An isolated nucleic acid encoding an antibody, wherein the antibody binds to ErbB3 protein and reduces heregulin binding thereto.

33. (NEW) The isolated nucleic acid of claim 32 wherein the antibody further reduces heregulin-induced ErbB2 activation in a cell which expresses ErbB2 and ErbB3.

34. (NEW) The isolated nucleic acid of claim 22 wherein the antibody binds to the epitope bound by the 8B8 antibody (ATCC HB-12070).

35. (NEW) The isolated nucleic acid of claim 22 wherein the antibody has the complementarity determining regions of the 8B8 antibody (ATCC HB-12070).

36. (NEW) A vector comprising the isolated nucleic acid of claim 22.

37. (NEW) A host cell comprising the isolated nucleic acid of claim 22.

38. (NEW) A method for making an antibody comprising culturing the host cell of claim 37 so that the nucleic acid is expressed and recovering the antibody from the host cell culture.

39. (NEW) The method of claim 38 further comprising conjugating the recovered antibody with a cytotoxic agent or enzyme.

40. (NEW) A vector comprising the isolated nucleic acid of claim 30.

41. (NEW) A host cell comprising the isolated nucleic acid of claim 30.

42. (NEW) A method for making an antibody comprising culturing the host cell of claim 41 so that the nucleic acid is expressed and recovering the antibody from the host cell culture.

43. (NEW) The method of claim 42 further comprising conjugating the recovered antibody with a cytotoxic agent or enzyme.

44. (NEW) A vector comprising the isolated nucleic acid of claim 31.

45. (NEW) A host cell comprising the isolated nucleic acid of claim 31.

46. (NEW) A method for making an antibody comprising culturing the host cell of claim 45 so that the nucleic acid is expressed and recovering the antibody from the host cell culture.

47. (NEW) The method of claim 46 further comprising conjugating the recovered antibody with a cytotoxic agent or enzyme.

48. (NEW) A vector comprising the isolated nucleic acid of claim 32.

49. (NEW) A host cell comprising the isolated nucleic acid of claim 32.

50. (NEW) A method for making an antibody comprising culturing the host cell of claim 49 so that the nucleic acid is expressed and recovering the antibody from the host cell culture.

51. (NEW) The method of claim 50 further comprising conjugating the recovered antibody with a cytotoxic agent or enzyme.--